



## General

### Guideline Title

Guideline for prevention of transmissible infections.

### Bibliographic Source(s)

Spruce L, Conner R, Retzlaff KJ. Guideline for prevention of transmissible infections. In: 2015 guidelines for perioperative practice. Denver (CO): Association of periOperative Registered Nurses (AORN); 2012 Dec. p. 419-51. [179 references]

### Guideline Status

This is the current release of the guideline.

## Recommendations

### Major Recommendations

Note from the Association of periOperative Nurses (AORN): Prevention of transmissible infections is a priority in the perioperative environment and includes considerations for environment of care, sharps safety and safe injection practices, hand hygiene, sterile technique, and sterilization. These topics are addressed in separate recommended practices and although they are mentioned briefly where applicable (e.g., standard precautions), the broader discussions are outside the scope of this document.

- I. Health care workers should use standard precautions when caring for all patients in the perioperative setting.
- II. Contact precautions should be used when providing care to patients who are known or suspected to be infected or colonized with microorganisms that are transmitted by direct contact or indirect contact.
- III. Droplet precautions should be used throughout the perioperative environment (i.e., preoperative, intraoperative, postoperative) when providing care to patients who are known or suspected to be infected with microorganisms that can be transmitted by large droplets (Siegel et al., 2007).
- IV. Airborne precautions should be used when providing care to patients who are known or suspected to be infected with microorganisms that can be transmitted by the airborne route.
- V. Health care personnel must follow the US Occupational Safety and Health Administration (OSHA) bloodborne pathogens standard when there is a risk of exposure to blood or other potentially infectious materials ("Occupational safety and health standards," 2012).
- VI. Perioperative personnel must wear personal protective equipment (PPE) when exposure to blood or other potentially infectious materials is anticipated ("Occupational safety and health standards, 2012").
- VII. Perioperative personnel should take action to prevent the transmission of health care-acquired infections.
- VIII. Health care personnel should be immunized against vaccine-preventable diseases.
- IX. Activities of health care personnel with infections, exudative lesions, and nonintact skin should be restricted when these activities pose a risk

of transmission of infection to patients and other health care providers. State, federal, and professional guidelines and strategies should be followed to determine the need for work restrictions for health care personnel with blood-borne infections (Henderson et al., 2010; Bolyard et al., 1998).

- X. Perioperative personnel should receive initial and ongoing education and competency validation of their understanding of the principles of infection prevention and the performance of standard, contact, droplet, and airborne precautions for prevention of transmissible infections and multidrug-resistant organisms (MDROs).
- XI. Documentation should reflect activities related to infection prevention.
- XII. Policies and procedures for the prevention and control of transmissible infections and MDROs should be developed, reviewed periodically, revised as necessary, and readily available within the practice setting.
- XIII. Perioperative team members should participate in a variety of quality assurance and performance improvement activities to monitor and improve the prevention of infections and MDROs.

## Clinical Algorithm(s)

None provided

## Scope

### Disease/Condition(s)

Any condition requiring the use of surgical and other invasive procedure-related care

### Guideline Category

Prevention

### Clinical Specialty

Nursing

Preventive Medicine

Surgery

### Intended Users

Advanced Practice Nurses

Nurses

Physicians

### Guideline Objective(s)

- To provide guidance in implementing standard and transmission based precautions to prevent infections in the perioperative setting
- To provide guidance for bloodborne pathogen transmission, use of personal protective equipment, multidrug-resistant organism prevention, and prevention of health care associated infections

Note: Considerations for environment of care, sharps safety and safe injection practices, hand hygiene, sterile technique, and sterilization are outside the scope of this document.

## Target Population

- Patients undergoing surgical and other invasive procedures
- Perioperative healthcare personnel

## Interventions and Practices Considered

1. Standard precautions
2. Contact precautions
3. Droplet precautions
4. Airborne precautions
5. Bloodborne pathogen standards (U.S. Occupational Safety and Health Administration [OSHA])
6. Personal protective equipment (PPE)
7. Perioperative actions to prevent transmission of health care acquired infections
8. Immunizations against vaccine preventable diseases
9. Restriction of health-care activities of personnel with infections, exudative lesions, and nonintact skin
10. Ongoing education, competency, policy, and documentation for perioperative personnel of the principles of infection prevention

## Major Outcomes Considered

- Signs and symptoms of systemic, surgical site and/or wound infection
- Prevention of infection
- Safety and efficacy of interventions and protocols
- Risk of infection transmission to patients and/or health care workers

## Methodology

### Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

### Description of Methods Used to Collect/Select the Evidence

A medical librarian conducted a systematic search of the databases MEDLINE®, CINAHL®, Scopus®, and the Cochrane Database of Systematic Reviews for meta-analyses, systematic reviews, randomized controlled trials, guidelines, and additions to the Morbidity and Mortality Weekly Report. The report was also regularly consulted for newly added, relevant entries.

Search terms included infectious disease transmission, infectious skin diseases, soft tissue infections, blood-borne pathogens, gram-negative bacteria, gram-positive bacteria, gram-negative bacterial infections, gram-positive bacterial infections, viral hepatitis, viral meningitis, viral skin diseases, HIV infections, disease outbreaks, infectious disease transmission, needlestick injuries, occupational accidents, occupational health, occupational diseases, droplet precautions, standard precautions, isolation precautions, airborne precautions, patient isolation, microbial drug resistance, methicillin-resistant *Staphylococcus aureus*, methicillin resistance, *Staphylococcus aureus*, vancomycin resistance, vaccination, immunization, disaster planning, emergency preparedness, bioterrorism, and chemical terrorism.

The search was limited to articles published in English between 1989 and 2011. The librarian established continuing alerts on the transmissible infection topics. The authors and medical librarian identified relevant guidelines from government agencies and standards-setting bodies. In addition, the authors requested articles that highlight the causes, identification, and treatment of transmissible infection, including some that were beyond the scope of this search.

## Number of Source Documents

A total of 179 articles met the inclusion criteria and were included in the review.

## Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Not Given)

## Rating Scheme for the Strength of the Evidence

Not stated

## Methods Used to Analyze the Evidence

Systematic Review

## Description of the Methods Used to Analyze the Evidence

Articles identified by the literature search were provided to the project team for evaluation. The team consisted of the lead author, two members of the Recommended Practices Advisory Board, and a doctorally prepared evidence appraiser. The lead author divided the search results into topics and assigned members of the team to review and critically appraise each article using the Johns Hopkins Evidence-Based Practice Model and the Research or Non-Research Evidence Appraisal Tools as appropriate. The literature was independently evaluated and appraised according to the strength and quality of the evidence. Each article was then assigned an appraisal score as agreed upon by consensus of the team. The appraisal score is noted in brackets after each reference, as applicable in the original guideline document.

## Methods Used to Formulate the Recommendations

Expert Consensus

## Description of Methods Used to Formulate the Recommendations

The collective evidence supporting each intervention within a specific recommendation was summarized and used to rate the strength of the evidence using the Oncology Nursing Society Putting Evidence into Practice (ONS PEP) schema. Factors considered in review of the collective evidence were the quality of research, quantity of similar studies on a given topic, and consistency of results supporting a recommendation. The evidence rating is noted in brackets after each intervention in the original guideline document.

## Rating Scheme for the Strength of the Recommendations

1: Strong Evidence: Interventions or activities for which effectiveness has been demonstrated by strong evidence from rigorously-designed studies, meta-analyses, or systematic reviews, rigorously-developed clinical practice guidelines, or regulatory requirements.

- Evidence from a meta-analysis or systematic review of research studies that incorporated evidence appraisal and synthesis of the evidence in the analysis.
- Supportive evidence from a single well-conducted randomized controlled trial.
- Guidelines that are developed by a panel of experts, that derive from an explicit literature search methodology, and include evidence appraisal and synthesis of the evidence.

1: Regulatory Requirement: Federal law or regulation.

2: Moderate Evidence: Interventions or activities for which the evidence is less well established than for those listed under "Strong Evidence."

- Supportive evidence from a well-conducted research study.

- Guidelines developed by a panel of experts which are primarily based on the evidence but not supported by evidence appraisal and synthesis of the evidence.
- Non-research evidence with consistent results and fairly definitive conclusions.

3: Limited Evidence: Interventions or activities for which there is currently insufficient evidence or evidence of inadequate quality.

- Supportive evidence from a poorly conducted research study.
- Evidence from non-experimental studies with high potential for bias.
- Guidelines developed largely by consensus or expert opinion.
- Non-research evidence with insufficient evidence or inconsistent results.
- Conflicting evidence, but where the preponderance of the evidence supports the recommendation.

4: Benefits Balanced With Harms: Selected interventions or activities for which the Association of periOperative Registered Nurses (AORN) Recommended Practices Advisory Board (RPAB) is of the opinion that the desirable effects of following this recommendation outweigh the harms.

5: No Evidence: Interventions or activities for which no supportive evidence was found during the literature search completed for the recommendation.

- Consensus opinion

## Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

## Method of Guideline Validation

External Peer Review

Internal Peer Review

## Description of Method of Guideline Validation

The Recommended Practices for Prevention of Transmissible Infection guidelines have been approved by the Association of periOperative Registered Nurses (AORN) Recommended Practices Advisory Board. They were presented as proposed recommendations for comments by members and others. They are effective December 15, 2012.

## Evidence Supporting the Recommendations

## References Supporting the Recommendations

Bolyard EA, Tablan OC, Williams WW, Pearson ML, Shapiro CN, Deitchmann SD. Guideline for infection control in healthcare personnel, 1998. Hospital Infection Control Practices Advisory Committee. Infect Control Hosp Epidemiol. 1998 Jun;19(6):407-63. [PubMed](#)

Henderson DK, Dembry L, Fishman NO, Grady C, Lundstrom T, Palmore TN, Sepkowitz KA, Weber DJ, Society for Healthcare Epidemiology of America. SHEA guideline for management of healthcare workers who are infected with hepatitis B virus, hepatitis C virus, and/or human immunodeficiency virus. Infect Control Hosp Epidemiol. 2010 Mar;31(3):203-32. [154 references] [PubMed](#)

Occupational safety and health standards, toxic and hazardous substances: bloodborne pathogens, 29 CFR Â§1910.1030. Washington (DC): Occupational Safety and Health Administration; 2012.

Siegel JD, Rhinehart E, Jackson M, Chiarello L, Health Care Infection Control Practices Advisory Committee. 2007 guideline for isolation precautions: preventing transmission of infectious agents in health care settings. *Am J Infect Control*. 2007 Dec;35(10 Suppl 2):S65-164. [PubMed](#)

## Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified for some of the recommendations (see the "Major Recommendations" field). See the full guideline document for systematic review and discussion of evidence.

## Benefits/Harms of Implementing the Guideline Recommendations

### Potential Benefits

Prevention of patient infection and health care worker injury

### Potential Harms

- Contact precautions may result in:
  - Less patient-to-health care provider contact
  - Changes to systems of care that produce delays and more noninfectious adverse events
  - Increased symptoms of patient depression and anxiety
  - Decreased patient satisfaction with care
- Adverse effects of vaccination

## Qualifying Statements

### Qualifying Statements

- These recommended practices represent the Association's official position on questions regarding optimal perioperative nursing practice.
- No attempt has been made to gain consensus among users, manufacturers, and consumers of any material or product.
- Compliance with the Association of periOperative Nurses (AORN) recommended practices is voluntary.
- AORN's recommended practices are intended as achievable and represent what is believed to be an optimal level of patient care within surgical and invasive procedure settings.
- Although they are considered to represent the optimal level of practice, variations in practice settings and clinical situations may limit the degree to which each recommendation can be implemented.

## Implementation of the Guideline

### Description of Implementation Strategy

An implementation strategy was not provided.

### Implementation Tools

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

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# Institute of Medicine (IOM) National Healthcare Quality Report Categories

## IOM Care Need

Staying Healthy

## IOM Domain

Safety

## Identifying Information and Availability

### Bibliographic Source(s)

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### Adaptation

Not applicable: The guideline was not adapted from another source.

### Date Released

2012 Dec

### Guideline Developer(s)

Association of periOperative Registered Nurses - Professional Association

### Source(s) of Funding

Association of periOperative Registered Nurses (AORN)

### Guideline Committee

Association of periOperative Registered Nurses (AORN) Recommended Practices Advisory Board

### Composition of Group That Authored the Guideline

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## Financial Disclosures/Conflicts of Interest

No financial relationships relevant to the content of this guideline have been disclosed by the authors, planners, peer reviewers, or staff.

## Guideline Status

This is the current release of the guideline.

## Guideline Availability

Electronic copies: Not available at this time.

Print copies: Available from the [Association of periOperative Registered Nurses \(AORN\) Web site](#) .

## Availability of Companion Documents

The following is available:

- Recommended practices for prevention of transmissible infections in the perioperative practice setting. Webinar. Available from the [Association of periOperative Nurses \(AORN\) Web site](#) .

## Patient Resources

None available

## NGC Status

This NGC summary was completed by ECRI Institute on April 16, 2013. The information was verified by the guideline developer on May 21, 2013.

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